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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,903	09/22/2003	Steven T. Fink	071469-0305780	7379
909	7590	10/18/2005		EXAMINER
PILLSBURY WINTHROP SHAW PITTMAN, LLP				TRAN, THUY V
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2821	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/664,903	FINK, STEVEN T.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thuy V. Tran	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on amendment submitted on 08/04/2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14, 16-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 2-5, 7-10, 13, 14 and 17-20 is/are allowed.
- 6) Claim(s) 1, 6, 11, 12, 16, 22 and 23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

This is a response to the Applicant's amendment submitted on August 4<sup>th</sup>, 2005. In virtue of this amendment:

- Claims 15 and 21 were previously canceled; and thus
- Claims 1-14, 16-20, and 22-23 remain pending in the instant application.

### *Claim Objections/ Minor Informalities*

1. Claim 16 is objected to because of the following informalities:

Line 1, --shield-- should be inserted between "electrostatic" and "and".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

3. Claims 1, 6, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Blalock (U.S. Patent No. 5,647,913).

With respect to claim 1, Blalock discloses, in Figs. 1-2, an assembly configured to be coupled to components of a plasma reactor (having housing [27]; see Fig. 1); the assembly comprises (1) an electrostatic shield [26] (see Fig. 2; col. 4, lines 20-22), and (2) a process tube [12] (see Fig. 1), wherein the electrostatic shield [26] is coupled to the process tube [12] (via dielectric fluid internally and coils [18] externally; see Figs. 1-2) such that the electrostatic shield [26] resides around the process tube and, at times of process tube removal from the plasma

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reactor, the electrostatic shield is extracted with the process tube (since the electrostatic shield [26], the process tube [12], and the coil [18] are associated/packed altogether; see Figs. 1-2).

With respect to claim 6, Fig. 1 of Blalock appears to show that the electrostatic shield [26] is attached to the process tube [12].

With respect to claim 22, Fig. 1 of Blalock appears to show that the process tube [12] is coupled to the electrostatic shield [26] such that the process tube [12] positions the electrostatic shield [26] within the plasma reactor (having housing [27]; see Fig.1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

5. Claims 11-12, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blalock (U.S. Patent No. 5,647,913) in view of Ishii et al. (U.S. Patent No. 5,571,366).

With respect to claim 11 and 12, Blalock discloses all of the claimed subject matter, as expressly recited in claim 1, except that the electrostatic shield be made of a flex-print material, which is a polyimide film.

Ishii et al. discloses, in Fig. 15, a plasma processing apparatus comprising an electrostatic shield [91], which includes two insulating films [93a, 93b] made of polyimide film (see col. 13, lines 17-24).

To employ a flex-print material such as polyimide film to make the electrostatic shield of Blalock to prevent an electrostatic force of the RF from acting on the chamber would have been

obvious to one of ordinary skills in the art at the time of the invention since such the use of such polyimide film material for making the electrostatic shield for the stated purpose has been well known in the art as evidenced by the teachings of Ishii et al. (see col. 13, lines 1-2).

With respect to claim 23, the combination of Blalock and Ishii et al. disclose that the process tube [12] is coupled to the electrostatic shield [26] such that the process tube [12] positions the electrostatic shield [26] within the plasma reactor (having a housing [27]; see Fig. 1).

With respect to claim 16, the combination of Blalock and Ishii et al. do not teach that the electrostatic shield and the process tube are bonded together. However, this difference is not of patentable merits since there can not be seen any distinguished effect by bonding the shield and the process tube together and such bonding can not be considered to achieve some unforeseeable results compared with the teachings of the combination of Blalock and Ishii et al.. Therefore, to bond the electrostatic shield and the process tube of the combination of Blalock and Ishii et al. together would have been regarded as part of routine and obvious development by a person skilled in the art.

***Allowable Subject Matter***

6. Claims 2-5, 7-10, 13-14, and 17-20 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest:

- An assembly configured to be coupled to components of a plasma reactor further comprising at least one spira-shield electrically coupled to the electrostatic shield, in

combination with the remaining claimed limitations as called for in independent claims 2, 10, and 14;

- An assembly configured to be coupled to components of a plasma reactor, the assembly comprising at least one insulating spacer located between the electrostatic shield and an end of the process tube, in combination with the remaining claimed limitations as called for in independent claim 3 (claims 4-5 are allowed since they are dependent on claim 3);
- An assembly configured to be coupled to components of a plasma reactor; the assembly comprising an electrostatic shield patterned directly on the process tube, in combination with the remaining claimed limitations as called for in independent claim 7 (claims 8-9 are allowed since they are dependent on claim 7);
- An assembly configured to be coupled to components of a plasma reactor wherein the electrostatic shield is implemented between two sheets of the flex-print material except on a top and bottom to allow for contacts with a spira-shield, in combination with the remaining claimed limitations as called for in independent claim 13;
- A method of fabricating an assembly including a housing, a process tube, and an electrostatic shield comprising electrically coupling the electrostatic shield to the housing through a spira-shield, in combination with the remaining claimed limitations as called for in independent claim 17;
- A method of fabricating an assembly including both a process tube and an electrostatic shield, the method comprising patterning the electrostatic shield onto the process tube using at least one of sputtering, evaporation or metal vapor deposition, in

combination with the remaining claimed limitations as called for in independent claim 18 (claim 19 is allowed since it is dependent on claim 18); and

- A method of fabricating an assembly including both a process tube and an electrostatic shield, the method comprising electrically coupling the electrostatic shield to at least one spira-shield, in combination with the remaining claimed limitations as called for in independent claim 20.

***Remarks and conclusion***

8. Applicant's arguments filed 08/04/2005 have been fully considered but they are not persuasive.

With respect to Applicant's arguments on claims 1, 6-7, and 22 in the second and third paragraphs at page 9, the Examiner disagrees with the Applicant's statements which are (i) Blalock fails to describe an electrostatic shield coupled to a process tube such that the electrostatic shield resides around the process tube and, at times of process tube removal from the plasma reactor, the electrostatic shield is extracted with the process tube. Nothing in Blalock, as discussed above, describes or suggests this feature”, and (ii) it appears that the plate 26 is not coupled to the shell 12 and would not be removed with the shell 12. In fact, the cited prior art Blalock discloses all (see details in the “Claim Rejections – 35 USC § 102” section set forth in this Office Action). Since all the coils [18], the electrostatic shield [26], and the process tube [12] are associated or packed together respectively in an order from outside to inside as one unit, the one located inside such as the process tube [12] when removed requires an extraction of the outer part such as the electrostatic shield [26]. As such, claims 1, 6, and 22 remain rejected as being anticipated by the teachings of Blalock.

Fig. 3 disclosed in the teachings of Blalock is an alternate embodiment. In that regard, no discussion is being made herein.

Claims 7-9 and 18-19 are now allowed since the cited prior art to Blalock does not teach an electrostatic shield patterned directly on the process tube (as claimed in independent claim 7) and/or a corresponding step of patterning the electrostatic shield onto the process tube using at least one of sputtering, evaporation or metal vapor deposition (as claimed in independent claim 18).

The Examiner disagrees with Applicant's arguments on claims 11-12, 16, and 23 at page 10 of the amendment in that Applicant states that Ishii et al. suffers from the same deficiency as Blalock. While Blalock does not teach a kind of material that can be used for the electrostatic shield to bring about a prevention of an electrostatic force of the RF from acting on the chamber or reactor, Ishii et al. with a teaching of the use of a flex-print material such as polyimide for the electrostatic shield should be considered as a remedy to cure such a deficiency of Blalock (see details in "Claim Rejections – 35 USC § 103" section set forth in this Office Action for details). In that regard, claims 11-12, 16, and 23 remain rejected as being unpatentable over the combined teachings of Blalock and Ishii et al..

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/16/2005



**THUY V. TRAN  
PRIMARY EXAMINER**